

What is claimed is:

1.

A method for amelioration of organ tissue injury caused by reperfusion of blood flow following a period of ischemia, which comprises:

administering to an individual in need of such treatment an effective amount of a composition which includes a compound which binds to a receptor for glucagon-like peptide-1, in a pharmaceutical carrier.

2.

The method of claim 1 wherein the glucagon-like peptide-1 is GLP-1 or a biologically active analogue thereof.

3.

The method of claim 1 wherein the pharmaceutical carrier is selected from the group consisting of saline, buffered saline, dextrose, water, glycerol, ethanol, lactose, phosphate, mannitol, arginine, trehalose, and combinations thereof.

4.

The method of claim 1 wherein the administering to an individual in need of treatment is at a dose level of 0.1 pmol/kg/min. up to 10 pmol/kg/min.

5.

The method of claim 4 wherein there is concurrent administration of glucose.

6.

The method of claim 5 wherein there is concurrent administration of potassium.

7.

The method of claim 4 wherein there is concurrent administration of a free radical scavenger.

8.

The method of claim 1 wherein administration commences within 4 hours of an ischemic event.

9.

The method of claim 8 wherein administration occurs within 4 hours of an ischemic event and continues thereafter.

10.

The method of claim 1 wherein administration is intravenously.

11.

The method of claim 1 wherein administration is by subcutaneous or micropressure injection, deep lung insufflation, external or implant pump, depot injection, and other sustained release mechanisms, oral delivery and patch, buccal and other cross skin and membrane mechanisms.

12.

The method of claim 1 wherein the organ tissue is the myocardium.

13.

The method of claim 8 wherein administration occurs as soon as possible after the event.

14.

The method of metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue, said method comprising:
administering to an individual in need of such treatment an effective amount of a composition comprising GLP-1 in a pharmaceutical carrier.

15.

The method of claim 14 wherein the glucagon-like peptide-1 is GLP-1 or a biologically active analog thereof.

16.

The method of claim 14 wherein the pharmaceutical carrier is selected from the group consisting of saline, buffered saline, dextrose, water, glycerol, ethanol, lactose, phosphate, mannitol, arginine, trehalose, and combinations thereof.

17.

The method of claim 14 wherein the administering to an individual in need of treatment is at a dose level of 0.1 pmol/kg/min to 10 pmol/kg/min.

18.

The method of claim 17 wherein there is concurrent administration of glucose.

19.

The method of claim 14 wherein administration commences within 4 hours of an ischemic event.

20.

The method of claim 19 wherein administration occurs within 4 hours of an ischemic event and continues thereafter.

21.

The method of claim 14 wherein the need for amelioration of tissue damage by metabolic intervention arises from a medical procedure that is a surgical event selected from the group consisting of cardiac surgical procedures, organ transplants, traumatic limb amputation and reattachment.

22.

The method of claim 14 wherein the medical procedure involves an ischemic reperfusion event, said event being concurrent with gut infarct and myocardial infarct.

23.

A composition for use in metabolic intervention with GLP-1 to improve the function of ischemic and reperfused tissue, comprising:
an effective amount of GLP-1 in combination with a pharmaceutically effective carrier.